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ABSTRACT

This paper reviews research on the family's influence on adolescent academic achievement and other related school outcomes and the few existing empirical studies of relevant prevention and intervention programs. Research on family processes has identified salient factors that impact crucial features of the parent-teen relationship. These include parenting style, parental aspirations, and parent involvement in education. Given the clear connections between family processes and school functioning, one might assume that families would be targeted in interventions for children's school difficulties, but fewer than 100 publications from the past decade that proposed family-based prevention or treatment for school problems were located, and only 10 of these were empirically based investigations. The three types of intervention studied were home-school contingency models, parent management training models, and parent involvement models. Promising results have been demonstrated with an emerging model type, the skills training models. Skills training models are amenable to combining with family-based models to create comprehensive intervention strategies and packages. Comprehensive interventions should target not only school failure but also the concomitant risk behaviors and their etiological roots. (Contains 171 references.) (SLD)

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Family Processes, Family Interventions, and Adolescent School Problems: A Critical Review and Analysis

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The National Center on Education in the Inner Cities

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INTRODUCTION

Few would deny the power of the family on adolescent values, beliefs, and behaviors. Recent research in the fields of adolescent development and education demonstrates the salience of parental influence during the second decade of life, especially with respect to academic achievement, politics, values, and religious beliefs (Baumrind, 1978; Kandel & Andrews, 1987; Hill, 1980; Steinberg & Levine, 1990; Rutter, 1980). Although family status variables such as class, structure, size, and ethnicity have been strongly and consistently linked to school outcomes among both adolescents and younger students (see Hess & Holloway, 1984 for a review), these variables fail to delineate the mechanisms which directly influence cognitive development and school performance (Epstein, 1989; Scott-Jones, 1984). Rather, there is a growing consensus that family status variables influence academic achievement through their impact on significant family processes such as child-rearing practices; parent beliefs, values, and teaching strategies; and the degree of parent involvement in a child's education in particular and, more generally, in daily life (Christenson, 1990; Scott-Jones, 1984; Epstein, 1989; Hess & Holloway, 1984; Steinberg, Brown, Cider, Kaczmarek, & Lazzaro, 1988). Consequently, basic research studies included in this review will be limited to those which focus on these more potent family variables.

In addition this review will also cover relevant applied research on various intervention models. Whereas a body of research on the family's influence on adolescent academic achievement and school adjustment is rapidly developing, there is no such similar growth in the development of family-based prevention and intervention models. Of the papers published on this topic during the last decade (which numbered fewer than 100), most were anecdotal reports or case studies. Less than 10 were empirically based studies of models designed to prevent or treat adolescent academic failure, truancy, dropout, and other school problems. Given this current state of affairs, this paper will critically review: (1) research on the family's influence on adolescent academic achievement and other related school outcomes (focusing on family process rather than status variables); and (2) the few existing empirical studies of relevant prevention and intervention programs. Inferences will be drawn from the family influences literature and from other relevant literatures (i.e., treatment and prevention of adolescent drug abuse and delinquency) to further the development of family-based prevention and intervention models for adolescent school problems.

Family Processes Research

The quality of the parent-child relationship during adolescence has important influence on adolescent functioning in cognitive, emotional, and behavioral realms. Aspects of the parent-adolescent relationship such as intimacy, involvement, and control, are significant correlates of adolescent school

adjustment and achievement (LeCroy, 1988; Epstein, 1989; Steinberg, Elmen, & Mounts, 1989). Research on family processes has identified salient factors which impact these crucial features of the parent-teen relationship. These include: (1) parenting style; (2) parental aspirations; and (3) parent involvement in education.

Parenting Style

Baumrind's now classic studies (1967, 1971, 1973, 1978) identified three parenting styles: (1) authoritative; (2) authoritarian; and (3) permissive. Authoritarian parents exercise firm control, allow little verbal reciprocity, and place high maturity demands on their children. Permissive parents, by contrast, are warm and affirming with their children. They make few maturity demands, grant a certain amount of autonomy to children in family decisions, and give explanations for family rules. Authoritative parents combine firm control with high levels of warmth and reciprocity. They are protective but not intrusive, allow verbal give-and-take between family members, yet consistently require their children to contribute to family functioning by helping with household tasks. In a series of studies conducted over a 20-year period, Baumrind (1991) concluded that children of authoritarian and permissive parents lacked competence when compared with children from authoritative homes.

In recent years, the study of the impact of parenting style and practices on children's behavior has expanded to the examination of adolescent school performance (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Steinberg, Elmen, & Mounts, 1989; Steinberg, Dornbusch, & Brown, 1992; Steinberg, Lamborn, Dornbusch, & Darling, 1992). In the first of these studies, Dornbusch et al. (1987) found that parenting style, as typologized by Baumrind, was associated with grades across a wide variety of social categories (e.g., sex and age of the adolescent, ethnic background, socioeconomic status, family structure, and parents' education). Children from families high in authoritarian or permissive parenting generally got lower grades in high school in comparison to children from families high in authoritative parenting. Furthermore, Steinberg and his colleagues argue that authoritative parenting also positively influences adolescents' attitudinal and behavioral indicators of academic orientation, including work orientation, engagement in classroom activities, educational aspirations, feelings about school, time spent on homework, academic self-concept, and school conduct (Steinberg et al., 1992; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Steinberg, Elmen, & Mounts, 1989).

Although the majority of studies on parenting practices have been limited to European-American, middle-class students and their families, and other evidence suggests that the benefits derived from having authoritative parents is stronger for European-Americans than for African-American, Asian-American,

and Latino families (Steinberg, Dornbusch, & Brown, 1992; Steinberg et al., 1992), researchers have increasingly addressed how race, class, and gender impact the association between parenting practices and adolescent school outcomes. Steinberg, Dornbusch, & Brown (1992) illustrate an intricate pattern among ethnicity, parental influence, peer influence and school success. Although, they found that adolescents whose parents are authoritative are more successful in school than their peers who come from families that are not authoritative, they also found that such parental influence was moderated by peer interactions in the context of ethnicity. The benefits of an authoritative family structure among African-American students was offset by a peer group which did not support academic achievement; hence African-American youth performed more poorly in school than did their Caucasian and Asian-American counterparts. Among Asian-American students, it was exactly the opposite; the negative effects derived from an authoritarian family was offset by peer encouragement to achieve in school. The school performance of Latino students suffered from the detrimental effects of authoritarian parenting practices and peer nonsupport, while Caucasians benefitted from both authoritative parenting practices and peer support.

In another study which considered ethnicity, Dornbusch and Ritter (1987) investigated the relationship among parenting style, family structure, effort in school, and grades. Effort was related to grades in all gender and ethnic groups with one striking exception. There was no relation between effort and grades among African-American males from single-parent families who demonstrated an authoritarian style of parenting. Given the findings from this study and others (see Steinberg, Elmen, & Mounts, 1989), one might speculate that authoritarian parenting in single-parent African-American families hinders the development of a work orientation among boys. It can be reasoned, then, that boys without a well-developed work orientation and without the corresponding belief that school failure will lead to serious negative life consequences (see Steinberg, Dornbusch, & Brown, 1992) would conclude that effort is not associated with achievement in school.

Bowman and Howard (1985) propose race-related socialization practices in which parents orient their children toward academic effort. In their study of African-American youth, two-thirds of the subjects reported their parents transmitted some message about their racial status. Four parental socialization themes emerged as messages about: (1) racial equality; (2) racial pride; (3) self-development; and (4) racial barriers. Parents' emphasis on self-development (such as individual excellence, character building, and self-reliance) was found to significantly impact youths' sense of personal efficacy as compared to parents who gave no orienting messages. In addition, youths socialized to be cognizant of racial barriers attained higher grades than those who were taught nothing about ethnic

issues. These findings may offer some explanation to the relationship between parenting, ethnicity, effort, and grades which Dornbusch and Ritter (1987) investigated. Perhaps authoritarian parenting thwarted the academic effort in black males in this study by the parents' failure to transmit proactive orientations toward blocked opportunities. Without such proactive strategies, it may be that the youths' sense of personal efficacy was negatively affected such that effort in school was perceived to be futile. Conceivably parental style may interact with race- and ethnicity-specific socialization practices to facilitate (or hinder) achievement motivations and behaviors in ethnic minority youth. Future research would need to be conducted to identify the mechanisms by which authoritarian, authoritative, and permissive parenting styles interact with race-related socialization practices to affect such academic outcomes.

Although it is the synergism of a particular parenting pattern that contributes to an adolescent's performance in school, three components of parenting style have been articulated: (1) supervision and control; (2) autonomy granting; and (3) warmth and acceptance (Baumrind, 1991; Maccoby & Martin, 1983; Steinberg, Elmen, & Mounts, 1989; Steinberg, 1990; Schaefer, 1965). Recent research has specified the components of each parenting pattern and their differential impact on adolescent outcomes. For example, Steinberg and his colleagues have demonstrated that components of authoritative parenting (parental acceptance and warmth, behavioral supervision and control, and psychological democracy) independently contribute to adolescent psychosocial well-being and success in school (Steinberg, Elmen, & Mounts, 1989).

Supervision and Control

Parental controls that are harsh, based primarily on power, and lacking in structure; those that are laissez faire with inadequate monitoring and supervision; and those that vacillate between strictness and laxity are associated with patterns of school maladjustment and academic failure (Hoffman, 1984; Ramsey & Walker, 1988; Wentzel, Feldman, & Weinberger, 1991; Dishion, 1990; Loeber & Dishion, 1984; Lamborn et al., 1991). Monitoring in the context of schoolwork is many faceted, and includes tracking of academic progress (Bempechat, 1990); homework (Clark, 1983); activities; and personal relationships (Loeber & Dishion, 1984). How parents control, discipline, and supervise their children and adolescents has been linked to child and adolescent aggression in school as well as in other settings (Loeber & Dishion, 1984; Patterson, 1976; Patterson, Chamberlain, & Reid, 1982).

Furthermore, one means by which family disruption (parent psychopathology, marital discord, separation) impairs adolescent functioning is through the disruption of parental management behaviors. For example, Weissman and Paykel's (1974) now classic study of depressed women demonstrated how

impaired parental functioning impacted children into adolescence and beyond. These mothers responded to their adolescents with affective and behavioral extremes: they either undercontrolled or overcontrolled their children, and confronted family problems with angry outbursts or withdrawal. The adolescents reciprocated in kind: "Their serious difficulties with authority and deviant behavior included truancy, school dropout, drug abuse, theft, and promiscuity. School problems occurred most frequently and were usually an early sign of the adolescent's problem" (p. 116, emphasis added). In contrast, parental discipline practices based on reason and explanation, which emphasize the relationship between the child's behavior and the feelings of others, have been found to enhance the development of prosocial behavior (Sigel, Dreyer, & McGillicuddy-DeLisi, 1984). Evidence concerning gender, social class, and the impact of parental supervision and control on adolescent behavior indicates that lower-class parents, more than middle- or upper-class parents, tend to discipline their children through the use of power instead of reason and negotiation (Roy, 1950; Bronfenbrenner, 1958; Kohn, 1963; Kohn & Carroll, 1960; Sears, Maccoby, & Levin, 1957; Hoffman, 1984; Janssens & Gerris, 1987; Simons, Whitbeck, Conger, & Chyi-In, 1991). Hoffman speculates that power-assertive techniques may be more efficient for low-income parents who, because of great demands and obstacles and few resources, may not be able to utilize more time-consuming reason-based discipline and control strategies. It should be noted that evidence, albeit not deep, indicates that the positive impact of appropriate supervision and control is stronger for boys than for girls (Steinberg, Elmen, & Mounts, 1989). In sum, parental control techniques that are reflective of authoritative versus either authoritarian or permissive parenting styles and practices are associated with better psychosocial adjustment and school achievement in children and youth.

Autonomy Granting

Another component of parenting style is the amount of autonomy that parents will grant to their adolescent children. A vehicle for facilitation (or inhibition) of autonomy is family decision making. The process by which parents encourage autonomy via decision making has been found to have important implications for school performance. On one end of the spectrum, families who withhold or prevent increased participation in decision making may seriously limit student motivation and learning (Epstein, 1989). At the other end is the danger of families who grant this autonomy too early. Giving early autonomy to youths tends to be associated with lower levels of academic performance, whether measured by effort or by grades (Dornbusch, Ritter, Mont-Reynaud, & Chen, 1990). Not surprisingly, these investigators found that a balanced and gradual involvement of teens in family decisions is optimal: joint decision making between parents and adolescents was linked to higher levels of academic performance.

Similarly, Eccles and Harold (1993) report that the extent of adolescents' involvement in family decision making is associated with school-related outcomes such as self-esteem, intrinsic motivation, and the transition to junior high school. Adolescents who report little opportunity to participate in family decision making showed lower self-esteem, intrinsic motivation, and a more difficult adjustment to junior high school than adolescents who reported increased opportunities to participate in family decisions.

What Dornbusch and his colleagues (1990) describe as "youth alone," "parent alone," and "joint" decision making resembles Baumrind's permissive, authoritarian, and authoritative (respectively) patterns of parental authority. Similarly, Eccles and Harold's (1993) "gradual increase in the opportunity for self-determination and participation in decision making" also resembles the authoritative pattern. Once again, considerable evidence suggests that a component of authoritative parenting (e.g., neither too much nor too little autonomy) is most predictive of adjustment and achievement in adolescents.

Warmth and Acceptance

Parental style also affects the emotional relationship between parents and teens. Indeed one important feature of authoritative parenting is the warm acceptance parents display toward their children. Adolescents may be more receptive to parental influence when they believe their ideas are accepted and taken seriously in a context of warmth and love (Epstein, 1989; Glynn, 1981; Greenberg, Siegel, & Leitch, 1983; Biddle, Bank, & Marlin, 1980). When warmth is communicated, intimacy is enhanced, and the attachment bond strengthened.

The importance of parent-child attachment for healthy adjustment has a rich history in the literature. Bowlby (1969) established the link between attachment and later social competence in young children. More recently, it has been suggested that the concept of attachment may be relevant for adolescents as well as for young children (Greenberg, Siegel, & Leitch, 1983; Hill, 1980; Rice, 1990). The actual mechanisms of parent-adolescent attachment are less understood than those in infancy and childhood. However, there is evidence that family relationships are transformed in adolescence, with the outcome of changes in the parent-teen bond having significant developmental impact (Steinberg, 1990). Two types of changes become salient: (1) parents are perceived by teenagers as moving from figures (who have knowledge or authority) to persons (who have personalities entailing likable and unlikable traits, variable moods, and a range of competencies); and (2) authority in the family shifts from unilateral

parental control to reciprocal cooperation and negotiation based on mutual respect (Youniss & Smollar, 1985). These transformations have been termed "individuation," a process whereby adolescents increase in independence while maintaining connectedness with their parents (Cooper, Grotevant, & Condon, 1983).

Family interactions which permit conflict between members in a context of support; acceptance and active understanding from parents; and continued connectedness are factors which seem to facilitate positive adolescent development in a variety of contexts (Hauser & Bowlds, 1990). More specifically, parent-adolescent closeness seems to mediate school outcomes including general self-esteem and academic self-concept (Cotterell, 1992). In addition, in the face of family disruption such as death, physical separations, and divorce, a warm relationship with at least one parent is sufficient to prevent problems in school functioning (Forehand, Middleton, & Long, 1987). Moreover, intimacy or attachment has been recognized as an important predictor of problem behavior in adolescence (Jessor & Jessor, 1977; Kandel, 1978; Lassey & Carolson, 1980; Wiatrowski, Griswold, & Roberts, 1981). Finally, it should be noted that the positive influence of parental warmth appears to surface with greater strength for girls in the areas of self-esteem and academic outcomes, while for boys, positive outcomes are stronger on measures of ego development (Steinberg, Elmen, & Mounts, 1989; Richards, Gitelson, Peterson, & Hurtig, 1991). Furthermore, the relationship between parenting and adolescent outcomes varies as a function of both adolescent and parent gender (Youniss & Smollar, 1985). Thus the parent-adolescent connection is more accurately characterized as four very different relationships, with the influence of parenting varying by sex of child, sex of parent, and the variable under investigation (Richards et al., 1991; Steinberg, 1987).

A line of research is now evident between Baumrind's contributions over two decades ago and the recent studies on parenting style. What began as an examination of childrearing practices with white, preschool children has been expanded conceptually and methodologically. Parental style has been broken down into component parts, including control strategies and behavior management; parental nurturance and responsiveness; and parental demandingness and autonomy giving. Samples have been extended to older children, ethnically heterogeneous populations, and other sectors displaying diverse demographic variables. Research designs have also been increasing in complexity and variety. The significance of this work cannot be underestimated. The field is beginning to discover important family processes that impact children's cognitive development, academic socialization, and subsequent school performance.

In sum, components of parental style have important implications for adolescent school functioning. Stated in the negative: absence of parental warmth is associated mainly with deficits in the domains of social skills and self-conceptions; absence of psychological autonomy with deficits in

competence and self-reliance; and the absence of demandingness for maturity with deficits in impulse control and social responsibility (Steinberg, 1990). Each of these three domains impacts aspects of adolescent school performance such as social adjustment, self-concept of ability, confidence, motivation, and behavior.

Parental Aspirations

A second means by which families influence adolescents' school performance is in the educational aspirations parents have for their children. Parental aspirations exert great influence upon children's self-concept of ability and subsequent academic performance (Entwisle, Alexander, Pallas, & Cadigan, 1987; Entwisle & Hayduk, 1988). Parents' expectations for achievement (e.g., parents' achievement orientations about the children's schoolwork, parental aspirations for the children's educational or occupational attainment, and pressure for improvement on interaction tasks) (Hess and Holloway, 1984) and parents' expectations of their children's ability levels (Seigner, 1983) seem to have significant impact on children's own self-perceptions and aspirations, motivation, and subsequent achievement. Furthermore, parents' expectations are more directly related to adolescents' self-concepts and expectancies than are the teens' own past records of academic performance (Parsons, Adler, & Kaczala, 1982).

It seems clear, then, that parents' aspirations and expectations influence achievement over and above adolescents' abilities. One vehicle by which parental expectations may influence student motivation is by affecting their children's beliefs about intelligence. These beliefs orient them toward pursuing certain academic goals and shape their coping strategies in the learning environment (Dweck & Leggett, 1988). Research on achievement behavior in middle childhood can be applied to adolescents' reactions to the challenges they encounter in the transition from childhood to adulthood (Henderson & Dweck, 1990). This research relies on attribution theory which suggests that one's explanation for success or failure is influential in determining whether or not one continues to invest energy in valued outcomes (Weiner, 1974). Students who believe their intelligence is fixed tend to pursue the goal of affirming that trait. That is, they seek performance-oriented goals wherein they can demonstrate their abilities successfully and avoid negative evaluations of their abilities. However, they may be more vulnerable to discouragement, anxiety, and debilitation in performance in the face of failure because they see failure as an indictment of their intelligence (Henderson & Dweck, 1990).

In contrast, students who believe that intelligence is malleable, or able to be developed through learning, tend to pursue the goal of increasing their abilities. They remain determined and effective in the face of obstacles because they view them as natural to the learning process. This model of

achievement motivation documents the impact of attributions regarding intelligence on emotional processes (such as performance anxiety), cognitive processes (such as self-concept of ability), and behavioral coping strategies (such as attention, self-talk, and task-orientation) (Henderson & Dweck, 1990).

Children and adolescents do not develop these beliefs about intelligence on their own. Their beliefs are shaped in the environments in which they reside, particularly that of the family. A considerable amount of research evidence is converging to show that parent attributions and beliefs have a causal influence on the children's development of achievement attitudes and behaviors (Bempechat, 1990; Phillips, 1987; Okagaki & Divecha, 1991). Many of these findings emerge from studies on young children. Okagaki and Sternberg (1991) propose that cultural socialization via parental beliefs and behaviors affects intellectual development (e.g., the timing at which particular skills develop; academic achievement; individual differences in intellectual ability; and the development of specific cognitive skills). This is also a fruitful area for future research with adolescents.

Parent Involvement in Education

Finally, another way in which parents influence their adolescent children's school performance is by their direct and indirect involvement in education-related activities. Several studies identify parental involvement as an important variable in high school achievement (Shanahan & Walberg, 1985; Fehrmann, Keith, & Reimers, 1987; Rock & Ekstrom, 1991) and in vocational choices and educational plans (Leung, Wright, & Foster, 1987). In fact, active parental involvement in the schools has been shown to impact school success at all grade levels (Stevenson & Baker, 1987; Eccles & Harold, 1993). One aspect of parental involvement in children's education is the degree of interaction held with the school. According to Bronfenbrenner (1986): "The available research evidence suggests that a powerful factor affecting the capacity of a child to learn in the classroom is the relationship existing between the family and the school" (p. 735). Moreover, parental involvement has been shown to mediate the entire relation between socioeconomic status and achievement (Baker & Stevenson, 1986; Stevenson & Baker, 1987).

Research in the 1950s and '60s began exploring the role of families in preparing young children for academic achievement in the classroom (see e.g., Milner, 1951; Bing, 1963; Freeberg & Payne, 1967; and Hansen, 1969). This gave rise to pressures to involve parents in the activities of the school such as: (1) participation in instruction as aides, volunteers, and tutors; (2) parent education to improve skills and knowledge; (3) supporting the school generally; (4) community-school relations; and (5) policymaking (Hess & Holloway, 1984; Henderson, Marburger, & Ooms, 1986; Moses & Croll, 1987).

Gordon (1979), in his review of research from the 1960s and '70s, argued for parent involvement in education because the behavior of parents and other family members influences child learning. In addition to demographic (i.e., family status) variables, he asserted that family-process variables impact children's academic socialization via both the cognitive and emotional environment of the home. More recently Epstein (1989, 1990) has further detailed Gordon's cognitive and emotional factors of the home into specific structures of educational socialization. These are more precise factors of parental involvement which have great impact on student performance.

Epstein (1989) employed the acronym "TARGET structures" for six aspects of parents' educational socialization which have analogous structures in the classroom. Bempechat (1990) summarizes the model succinctly:

(a) Task structure, or variety of activities, including intellectual activities, that children participate in at home;

(b) Authority structure, or the degree to which children have responsibilities and participate in family decision-making;

(c) Reward structure, or the ways in which parents recognize advances in learning;

(d) Grouping structure, or the ways in which parents influence the child's interactions with family members and peers;

(e) Evaluation structure, or parental standards for and means of judging performance; and

(f) Time structure, or the ways in which parents manage children's time for schoolwork and other activities.

Epstein's model expands "parent involvement" to include many other factors found in the literature as integral to academic achievement. Many of these overlap with aspects of parental style discussed previously. For example, authority structure has obvious similarity to the autonomy granting aspect of parental style. In addition task, grouping, and time structures involve parental monitoring of students' activities, relationships, and time (respectively) are also indicative of the supervision and control practices of parental style. This overlap between parental style and parent involvement in school has been explored in an interesting study by Steinberg and colleagues (1992). These researchers found that adolescents from authoritative homes "do better and are more engaged in school in part because their parents are more involved in schooling" (p. 1275). Moreover, the degree to which parental involvement facilitated school success was mediated by parental style (i.e., nonauthoritative parenting was found to undermine the usual benefits of parental involvement). Thus, the influences of family processes on adolescent school outcomes appear to have a synergistic effect.

Parents' initiation of school contact (Bempechat, 1990) and clarity of academic standards (Clark, 1983) also seem to be important aspects of parental involvement in children's education, as does the means of evaluation and reward for learning-related progress (Epstein, 1989). Parent involvement, then, no longer means such traditional notions as mere attendance at PTA meetings. Rather, it encompasses the whole of parents' practices of educational socialization.

The strength of Epstein's model is that it links crucial family-school processes to learning over a developmental spectrum. It is specific and supported by relevant empirical studies. It recognizes that the degree of overlap in family and school environments helps to explain patterns of student motivation, learning, and development (Epstein, 1989). Therefore TARGET structures are specific factors of the home that affect children's motivation to learn. These are directly analogous to structures at school that organize classroom instruction and management, and are discussed in terms of development (ranging from young children to adolescents) and influence on academic and non-academic outcomes.

The TARGET structures are instructive because they give shape to actual mechanisms in families which influence student performance and the means by which the family-school relationship can enhance that performance. On this latter issue Epstein (1989) holds that the structures are not the sole responsibility of the family but depend

> heavily on the quality and quantity of information from the schools about children's programs and progress. . . . Schools have an important responsibility (based on their understanding of children at specific stages of development and the skills required for success at each grade level) to help families increase the degree of family-school overlap in ways that promote more effective students. (p. 287)

Epstein's model is comprehensive in that it demonstrates links between mechanisms at home and in school. These are extremely valuable linkages for professionals who aspire to work with families and schools to help improve adolescent functioning in both settings. The next section of this review is an examination of the literature on prevention and treatment of adolescent school problems.

Intervention Research

Given the clear connections between family processes and school functioning (Hess & Holloway, 1984; Epstein, 1989; Dornbusch et al., 1987, 1990; Steinberg et al., 1988; Steinberg, Elmen, & Mounts, 1989), one might assume families would be targeted in interventions for children's school difficulties. However, this is often not the case. As previously noted, less than 100 publications from the past decade were located which proposed family-based prevention and/or treatment for school problems, of which only 10 were empirically based investigations. Fewer still were models which were tested with

adolescents. Donovan's (1992) review reflects similar findings. She found just 13 empirically based studies, only five of which were conducted since 1980. While models are growing in number for prevention and treatment of other adolescent difficulties, evaluation data on the effectiveness of family-based programs is scarce for school outcomes (Small, 1990).

As research demonstrates increasing linkages between family processes and school functioning, testing family-based models seems potentially fruitful for intervening with students experiencing school problems. The few treatment studies available offer support for this line of intervention research. The majority of these family interventions have applied social learning principles to family therapy. Included in this review will be three types of family-based interventions: home-based contingency models, parent management training models, and parent involvement models. Finally, we will also include a review of the emerging skills training models which have also been demonstrating promising results with school outcomes (and which are amenable to combining with family-based models to create comprehensive intervention strategies). Since so few studies test models aimed at adolescents, investigations in this review will include a range of age groups from pre-school through high school.

Family-Based Investigations

Home-School Contingency Models

Home-based reinforcement models were an early attempt to apply social learning principles to family interventions. These models involve teacher communication to parents of either general or specific child performance and then parental rewards or sanctions contingent upon these reports. These programs are beneficial because they permit regular feedback to parents and enhance parent-school communication, both of which have been demonstrated as integral to positive student performance in school (Epstein, 1989). The potential efficacy of these models with adolescents seems connected to the adults' ability to make sanctions developmentally appropriate. Also, as with young children, the consistent delivery of reinforcers is crucial, as is effort to move from tangible rewards to intangible ones (i.e., to access the adolescent's internal motivation for school success rather than rely on external incentives). Kelley's (1990) rationale is applicable here:

> Rather than viewing home-school notes as a way of increasing adolescents' dependence on adult-mediated interventions . . . [we] view the procedure as a steppingstone to self-management. Through increased parental monitoring and contingent delivery of privileges, the adolescent student begins to function more competently. Our goal is then to systematically fade out the added adult involvement associated with a school-home program; this is replaced by self-managed academic productivity. (p. 148)

Home-based contingency programs have been found to be effective across a wide range of grades/age groups (Ayllon, Garber, & Pisor, 1975; Schumaker, Hovell, & Sherman, 1977; Trice, Parker, Furrow, & Iwata, 1983); settings (both regular and special education classrooms) (Heaton, Safer, Allen, Spinnato, & Prumo, 1976); and problems (both academic difficulties and disruptive behaviors) (Trice et al., 1983; Blechman, Kotanchik, & Taylor, 1981). However, methodological problems with some of the earlier studies made the positive results reported from home-based reinforcement programs suspect (Atkeson & Forehand, 1979). Subsequently, researchers have ameliorated the methodological flaws of earlier programs and found significant improvement in academic performance of high-risk children utilizing home-based contingency contracting (Blechman et al., 1981).

Parent Management Training Models

A second family-based approach is skills training for parents. In parent management programs, parents are taught and practice specific skills of communication and behavior management with their child. The goals are to create or strengthen a positive and mutually rewarding relationship between the parent and child and to decrease problematic behaviors while increasing prosocial behaviors (McNeil, Eyberg, Eisenstadt, Newcomb, & Funderburk, 1991). Parent training programs have been found to be effective in ameliorating home noncompliance of children ranging in age from 3 to 14 years old (Breiner & Forehand, 1981; Karoly & Rosenthal, 1977); improving severe home and school conduct problems of preschool to early adolescent age children, including noncompliance, temper tantrums, overactivity, physical aggression resulting in serious injury to others (e.g., broken bones, stab wounds); chronic firesetting; cruelty toward and killing of animals; chronic stealing outside of the home; and neighborhood vandalism (McNeil, et al., 1991; Patterson, 1974; Patterson, Chamberlain, & Reid, 1982; Wiltz & Patterson, 1974). Moreover, parent training has documented gains in bringing problematic behaviors of treated children within normative levels of nonreferred peers who are functioning adequately, and in maintaining these gains over time (Kazdin, 1985).

Parent training models, though not always aimed at treating school problems per se, may impact school achievement or adjustment by increasing authoritative parenting (Small, 1990). As documented in the family process literature, the parental competencies indicative of authoritative parenting have been linked to adolescent school performance (Dornbusch, et al., 1987; Steinberg, Elmen, & Mounts, 1989). Thus to the extent that a parent training program increases parents' skills in establishing appropriate behavioral limits and granting psychological autonomy to adolescents in a context of warmth and democracy, school performance may be affected.

Many of the parent training models have similar components, including some form of behavioral assessment, instruction in basic principles of child management, development of a generalization plan, and evaluation of the progress by the family (Horne & Walker, 1984). Intervention strategies typically focus on parents' self-control; discipline and reinforcement practices; and communication with their children. As with home-contingency programs, success of these programs with adolescents lies in the adults' abilities to implement fair and developmentally appropriate sanctions and communication that enhances family closeness and problem-solving abilities.

Parent Involvement Models

A final method of family intervention is parental involvement in children's educational activities. Parental involvement programs emphasize the importance of parents' support for the remediation of academic, motivational, and behavioral difficulties. Parents are taught methods of influencing their children's academic goals, educational achievement, and self-concept of ability. Programs vary from more cursory involvement such as increased parental attention to their child's schoolwork (Rodick & Henggeler, 1980) to parental teaching interventions (Tizard, Schofield, & Hewison, 1982) to intervention into more complex family processes such as Epstein's (1989) TARGET structures. Increasingly, parent involvement efforts are focusing on the latter:

> In contrast to the politically based, formalized parent participation models of the preceding era (1965-1980), which failed to elicit widespread or long-term parent involvement, today's strategies stress parents as extensions of the schools' business--supporters of homework, monitors of activities, and reinforcers of school values. (Heath & McLaughlin, 1987, p. 577)

This movement may be due to the recent challenge raised against the alleged benefits of early intervention programs for handicapped, disadvantaged, and at-risk students. White, Taylor, and Moss (1992) argue that there is insufficient data to support involving parents in such programs. Thus, for the purpose of this review, parent involvement interventions will refer to programs designed to: (1) enhance parent-school partnerships; and (2) target parenting practices that support school activities, values, and skills (including, parental teaching behaviors and child rearing skills).

Interventions that involve parents in their children's education thus defined have proven effective in: (a) improvement in reading of elementary-age students from urban schools at two-year follow-up (Tizard, et al., 1982); (b) amelioration of academic and motivational reading problems of low-achieving, inner-city junior-high school students (Rodick and Henggeler, 1980); (c) readmission of dropout students to high school (Svec, 1986); and (d) enhancement of parent-school relations in general (Epstein, 1986,

1987). These programs have also increased students' motivation to learn at home as evidenced by commitment to study, completion of homework, discussion of school experiences within the family, and persistence towards school graduation (Epstein, 1989).

To summarize, despite considerable evidence indicating the importance of families to adolescent school performance, few family-based interventions have been evaluated empirically. Though more studies have been conducted with young children, most of these parent programs are not rigorously controlled (White, Taylor, & Moss, 1992). Methodological problems such as failure to use random assignment, lack of control groups, and homogeneous samples raise questions of generalizability, sampling biases, and general validity of results.

> In part, this lack of rigorous evaluation is due to the fact that programs are not scientific laboratories in which parents are randomly assigned to groups, where multiple-criteria outcome measures which evaluate proximal and distal program effects are used, and where the situation allows for internally valid research designs. (Iglesias, 1993, p. 17)

For adolescents, the majority of family models are described in clinical papers that cite case material as illustration of the intervention's efficacy (see e.g., Aponte, 1976; Eno, 1985; Goldstein, 1986). Moreover, many of the clinical articles do not identify the specific population and/or particular school problem targeted for intervention. Instead, the models are generic, without reference to demographic context such as age, ethnicity, urban/suburban/rural status, or socioeconomic status of the target population (Conoley, 1987; DiCocco & Lott, 1982; L'Abate, Baggett, & Anderson, 1984; Lusterman, 1985, 1988; Guerin & Katz, 1984). In addition, these models typically do not identify the specific problems they target, or they propose treatment for an array of school problems (Carlson, 1987; Fish & Jain, 1988; Green, 1985; McGuire, Manghi, & Tolan, 1990; Power & Bartholomew, 1985, 1987). Unfortunately these models are impossible to evaluate without outcome data.

The trend in treatment research away from grand scale theories to population- and problem-specific models of intervention is more conducive to identifying effective models for preventing and treating adolescent school problems. The proliferation of empirically based skills training models of intervention for particular adolescent problems is an example of this trend. These models are a promising development in a literature which has applicability to family-based interventions for adolescent problem behaviors.

Skills-Based Investigations

Skills-based models often target at-risk students themselves (i.e., without family members) for preventive purposes. Skill training programs typically emphasize the development of general skills and

competencies (e.g., stress management, communication skills) as well as skills that are specific to particular problem behaviors (e.g., resistance skills against peer pressures to use drugs, or self-management skills to improve poor study habits). Psychosocial skills training models have proven effective in: (a) preventing adolescent substance abuse (Botvin, Baker, Dusenbury, Tortu, & Botvin, 1990; Tobler, 1986); (b) improving adolescent interpersonal competence (Botvin & Tortu, 1988; Schinke, 1981); (c) enhancing adolescent coping and stress management skills (Feindler, Marriott, & Iwata, 1984; Schinke, Schilling, & Snow, 1987); and (d) improving adolescent problem-solving (Kachman & Mazer, 1990; Larson, 1989).

Research also supports the efficacy of psychoeducational skills-based approaches for specific school outcomes. Intensive skills training with individual adolescents and groups of adolescents has been shown to have significant impact on school performance. Intervention studies targeting social skills (Hammond, 1990); study skills (Champlin & Karoly, 1975; Greiner & Karoly, 1976; Richards, McReynolds, Holt, & Sexton, 1976; Ollendick, Matson, Esveldt-Dawson, & Shapiro, 1980); moral reasoning (Arbuthnot & Gordon, 1986); and self-management skills (Schinke et al., 1987; Dean, Malott, & Fulton, 1983) all document gains in school adjustment and/or achievement. Similarly, the effectiveness of peer-influenced academic interventions such as peer tutoring and cooperative learning has been established (Cohen, Kulik, & Kulik, 1982; Johnson, Maruyama, Johnson, Nelson, & Skon, 1981), particularly with special education (Ballard, Corman, Gottlieb, & Kaufman, 1977; Cooper, Johnson, Johnson, & Wilderson, 1980; Maher, 1982) and ethnic minority students (Slavin, 1980).

In sum, skills training models have demonstrated effectiveness with academic, behavioral, and interpersonal outcomes which impact students' school performance and adjustment. Skills-based models expand conceptions of educational outcomes beyond academic achievement which

> . . . alone does not guarantee the effective citizens and adults America requires. Other outcomes must be accomplished concurrently in order for academic achievement to mean much. These nonacademic outcomes build on notions of social competence and include additional dimensions, such as physical and mental health, formal cognition, and motivational and emotional status. (Heath & McLaughlin, 1987, p. 578)

Thus in addition to academically oriented interventions demonstrated in educational research, skills models broaden the definition of school performance to include interpersonal competence, effective coping, and resistance to drug abuse. Moreover, while family-based interventions have historically been aimed at younger students, skills training models have demonstrated positive results with both children and adolescents. And, they have shown particular promise with adolescent populations at risk for school failure and dropout (e.g., low-income urban or drug abusing adolescents).

DISCUSSION

Co-Occurrence of School Difficulties With Other Adolescent Problems

School problems have a well-established potential to guide assessment and treatment planning for those working with adolescents. School failure is one of the most clearly established risk factors for substance abuse as well as for other problem behaviors in adolescence, such as delinquency and teen pregnancy (Hawkins & Lam, 1987; Elliot, Huizinga, & Menard, 1989; Dryfoos, 1990). Some empirical support has been found for considering these problems not as discrete, disconnected problem behaviors, but as a syndrome of problem behaviors--hypothesized to have the same organizing etiology (Jessor & Jessor, 1977). Because of the covariation of problem behaviors (Kazdin, 1987), skill-based approaches proven effective in preventing and ameliorating drug abuse and other adolescent behavior problems may also be effective with school-related problems. Hawkins, Lishner, Jenson, & Catalano (1987) propose that the co-occurrence of many adolescent problems suggests not only common etiological factors but also similar targets of intervention. Future intervention model construction and testing will determine if this general idea holds and the degree and nature of the modifications necessary to tailor previously tested interventions to specific school-related problems.

Co-Occurrence of School Difficulties With Clinical Disorders

Issues of comorbidity raised in the literature on developmental psychopathology are also instructive. Not only do adolescent-academic and school-adjustment difficulties frequently co-occur with other "problem behaviors," but they also co-occur with clinical disorders. Prevalence studies indicate that poor school performance is one of the major correlates of psychiatric disorders in adolescents (Offord, Boyle, & Racine, 1990). Deficits in academic achievement are common in adolescents who were diagnosed with attention deficit-hyperactivity disorders (ADHD) as children (Paternite & Loney, 1980). In fact, it has been estimated that up to 30% of the ADHD population will fail to complete high school (Weiss, Hechtman, Milroy, & Perlman, 1985). Academic and behavioral problems in school are also frequent among youth diagnosed with conduct disorder (school truancy is one of the diagnostic criteria for the disorder). Conduct-disordered youth often manifest symptoms of attention deficit disorder (Stewart, Cummings, Singer, & DuBlois, 1981) as well as other disorders such as depression (Puig-Antich, 1982) and learning disabilities (Lewis, Lewis, Unger, & Goldman, 1984). Conduct disorder and substance abuse are thought to have common etiological roots (Haggerty, Wells, Jenson, Catalano, & Hawkins, 1989). In addition, the link between substance abuse and depression is frequently interpreted as adolescents' efforts to self-medicate to reduce depressive symptoms (Simons, Conger, & Whitbeck,

1988). Each of these disorders is likely to manifest symptoms in the school setting. Again, because of their co-occurrence, efforts aimed at treating one disorder (such as skills-training programs) may also impact symptoms of co-morbid clinical disorders.

Intervention Packages

This overlap of adolescent problems and disorders has led some to propose "risk-focused" intervention efforts (Hawkins, Catalano, & Miller, 1992). These are multi-component strategies that: (1) target youth at greatest risk (i.e., those exposed to multiple risk factors); (2) focus on eliminating or moderating the risk factors; and (3) seek to enhance protective or buffering factors of adolescent problem behaviors (Hawkins et al., 1992). Comprehensive treatment packages are now recommended in skills-based prevention research as well (Tobler, 1986). Efficacy is thought to be enhanced when skills training is included with other modalities of intervention--especially modalities that include parents (Glynn & Haenlein, 1988; Falck & Craig, 1988; Coombs, Paulson, & Palley, 1988; Hawkins, et al., 1987).

Family-based studies specifically aimed at treatment of school difficulties also affirm the need for combinations of treatment interventions (McNeil, et al., 1991; Rodick & Henggeler, 1980; Bry, Conboy, & Bisgay, 1986). For example, though the McNeil, et al. (1991) study focused on young children, school problems targeted were severe, similar to those conduct problems evidenced in adolescent students. In this study parent training resulted in school generalization primarily in the area of conduct problems/oppositional behavior (e.g., disobeying teacher commands, sassing, teasing, hitting, talking out of turn, whining, yelling, and breaking school rules). Generalization was not found in the areas of hyperactivity, inattention, and peer relationships. Regarding the latter, the authors suggest that "an additional social skills treatment component would be beneficial to the overall school adjustment of these children" (p. 148).

In a study targeting at-risk, urban adolescents (Rodick & Henggeler, 1980), two treatments were offered: (1) a tutoring/ mentoring program; and (2) a parent involvement program. Both interventions achieved significant positive results in the students' academic performance. The investigators speculate that the gains may be increased if: (a) the treatment sessions were dispersed over a longer period; (b) booster sessions were included; and (c) the reinforcers were phased out gradually. Most important to the present discussion, they make recommendations similar to those in the McNeil, et al., (1991) study, namely, combining the tutor and home approaches for a comprehensive treatment package.

Given our current knowledge base, programs which intervene in multiple domains (i.e., individual, family, school, community) and address multiple targets (including the problem behavior itself

and the precursors or correlates which heighten the risk) offer state-of-the-art treatment for at-risk youth. Some contemporary family-based intervention approaches follow this strategy (e.g., Henggeler & Borduin, 1990; Liddle, Dakof, & Diamond, 1991). Hawkins et al. (1992) present an extensive review of research on risk and protective factors of adolescent drug abuse which characterizes the state of the current knowledge base:

> Most studies to date have focused on small subsets of identifiable risk factors for drug abuse. There is little evidence available regarding the relative importance and interactions of various risk factors in the etiology of drug abuse, although current studies are seeking to measure a broader range of identified risk factors. At this time, it is difficult to ascertain, for instance, which risk factors or combinations of risk factors are most virulent, which are modifiable, and which are specific to drug abuse rather than generic contributors to adolescent problem behaviors. Current knowledge about the risk factors for drug abuse does not provide a formula for prevention, but it does point to potential targets for preventive intervention. (p. 65)

This also appears to be the case for adolescent school problems. The research offers no specific formulas for intervention, but risk factors are empirically derived which can be targeted.

A handful of such integrative models exists for the treatment of adolescent school difficulties. Bry et al. (1986) in a small intervention study targeted drug abusing adolescents who were failing in school. Combining behavioral techniques with family therapy interventions, this study yielded positive results (decreased drug use and improved grades) which were maintained at 1-1/4-year follow-up. Other investigations have also targeted drug-abusing adolescents including school performance variables as outcome measures. One study utilized a retrospective method to examine the impact of a community-based family intervention on students' school performance (Kirk, Chapman, & Sadler, 1990). Although random assignment to treatment conditions was not used, promising results were attained. Treated students received higher academic and citizenship grades than untreated controls and had fewer school absences.

Such encouraging results in the academic realm regarding drug abusing populations have not always existed. Tosti-Vasey and Barton (1991) conducted a large multi-component drug and alcohol program which included skills training, family communication intervention, and alternative activities to drug/alcohol use. The program was successful in reducing school disciplinary problems of the adolescents but not in improving their grade point averages. In contrast, excellent results (including academic outcomes) were found with another population at risk for school dropout: the Nicholls State-Youth Opportunities Unlimited (NS-YOU) program offered several kinds of interventions to adolescents from low-income families. This comprehensive model provided academic remediation, counseling, and job training in a 7-week intervention. Treated subjects showed increased performance in reading and

math, decreased external locus of control, and smaller decreases in self-esteem as compared to untreated subjects (Curry, 1990). Treatment gains were maintained at 6-month follow-up. Though few in number, the testing of comprehensive models (in terms of types of interventions and problems targeted) such as these offers hope to adolescents at risk for school failure and other problem behaviors.

Empirically Derived and Theoretically Driven Intervention Models

Failure to anchor programs in a theoretical base and inadequate evaluation have been linked to ineffective outcomes with substance abusing and delinquent youth (Stein, Garrett, & Christiansen, 1990). This is likely to be the case with adolescents experiencing school difficulties as well. There is a need for intervention research with adolescents (particularly ethnic minorities) that targets family processes demonstrated to be integral in impacting school performance. Moreover, school performance should be broadly defined to include domains of development and behavior demonstrated to be linked with school problems and performance. These would include: cognitive development, academic achievement, and intractable behavior problems, including drug use, truancy, chronic failure, and aggression (i.e., behaviors that place adolescents at risk). The future theoretical structures will be integrative and will draw upon various fields and specialties. The intervention models emanating from these theoretical structures will also be integrative. The challenges of constructing complex but coherent multi-component theoretical and interventions models are formidable, yet the field seems poised on the crest of this new wave.

Conceptualization of School Problems

Contemporary thinking and research argues for multidimensional explanations of adolescent school difficulties. School failure is a process, not a single risk event (Dryfoos, 1990). Its etiology is multivariate, and it can be manifested in various forms. Evidence of school failure (or risk thereof) includes disciplinary problems; absenteeism and truancy; low test scores and grades; being behind modal grade (older than the average age of one's classmates); rejection by peers; low involvement in school activities; and of course, dropping out entirely (Dryfoos, 1990). School failure involves a range of difficulties that are academic, behavioral, emotional, and interactional in nature.

A multicausal, interactive framework which considers intrapersonal, interpersonal, and sociocultural correlates is needed to adequately conceptualize the complex network of variables associated with adolescent problem behaviors. As with adolescent drug abuse, the individual type or specific

combination of risk factors which determine adolescent school difficulties is not clearly identifiable. Similarly, we do not yet know which particular protective factors, or combination of factors are most effective in buffering the adolescent from the risk-factor influences. Despite, these gaps in our knowledge base, we do know a great deal about family influences on the school performance of adolescents, theoretical structures which can be used to develop coherent conceptual frameworks, and empirically derived intervention strategies which can be tailored to target particular academic and school-related problems.

It is likely that the theoretical models of tomorrow will utilize intrapersonal, interpersonal, and ecological variables which can heighten or buffer the risk for school problems. Further, interventions which are comprehensive in scope, targeting not only school failure directly, but also the concomitant risk behaviors and, as we learn about them, their etiological roots, offer the most promise in effecting a solution.

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The National Center on Education in the Inner Cities

The National Center on Education in the Inner Cities (CEIC) was established on November 1, 1990 by the Temple University Center for Research in Human Development and Education (CRHDE) in collaboration with the University of Illinois at Chicago and the University of Houston. CEIC is guided by a mission to conduct a program of research and development that seeks to improve the capacity for education in the inner cities.

A major premise of the work of CEIC is that the challenges facing today's children, youth, and families stem from a variety of political and health pressures; their solutions are by nature complex and require long-term programs of study that apply knowledge and expertise from many disciplines and professions. While not forgetting for a moment the risks, complexity, and history of the urban plight, CEIC aims to build on the resilience and "positives" of inner-city life in a program of research and development that takes bold steps to address the question, "What conditions are required to cause massive improvements in the learning and achievement of children and youth in this nation's inner cities?" This question provides the framework for the intersection of various CEIC projects/studies into a coherent program of research and development.

Grounded in theory, research, and practical know-how, the interdisciplinary teams of CEIC researchers engage in studies of exemplary practices as well as primary research that includes longitudinal studies and field-based experiments. CEIC is organized into four programs: three research and development programs and a program for dissemination and utilization. The first research and development program focuses on the *family* as an agent in the education process; the second concentrates on the *school* and factors that foster student resilience and learning success; the third addresses the *community* and its relevance to improving educational outcomes in inner cities. The focus of the *dissemination and utilization* program is not only to ensure that CEIC's findings are known, but also to create a crucible in which the Center's work is shaped by feedback from the field to maximize its usefulness in promoting the educational success of inner-city children, youth, and families.

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